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THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

Preparations for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) by the Advisory Committee

Recommendations of the regional preparatory conferences for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

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I. Introduction

1. The General Assembly, in its resolution 52/56 of 10 December 1997, endorsed the report of the Committee on the Peaceful Uses of Outer Space on the work of its 40th session,[1] which included the recommendation of the Preparatory Committee for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) that the United Nations Programme on Space Applications should organize, as part of its programme of regular activities in 1998 and 1999, regional preparatory meetings for UNISPACE III.[2] At its thirty-fifth session, in 1998, the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space took note of the status of the regional preparatory meetings for the regions of Africa, Asia and the Pacific, and Latin America and the Caribbean and recommended the approval of the programme for conferences and meetings for 1999, including the regional preparatory meeting for eastern Europe (A/AC.105/697 and Corr.1, paras. 25 (c), (g) and (j) and 32 (h)). The Subcommittee, acting as the Advisory Committee for UNISPACE III, adopted the report of the Working Group of the Whole, which had been reconvened at the 1998 session to assist the Advisory Committee in the preparatory work for UNISPACE III (A/AC.105/697 and Corr.1, paras. 54 and 55). In its report, the Working Group of the Whole noted that, if consensus recommendations were adopted at the regional preparatory meetings, those recommendations would be considered by the Advisory Committee at its 1999 session for inclusion in the draft report of the Conference (A/AC.105/697 and Corr.1, annex II, para. 42).

2. Regional preparatory conferences for UNISPACE III were convened in Kuala Lumpur from 18 to 22 May 1998 for the region of Asia and the Pacific, in Concepción, Chile, from 12 to 16 October 1998 for the region of Latin America and the Caribbean, and in Rabat from 26 to 30 October 1998 for the regions of Africa and western Asia. A similar regional preparatory conference will be held in Bucharest from 25 to 29 January 1999 for the region of eastern Europe.

3. The present document contains the recommendations made by the regional preparatory conferences for Asia and the Pacific and for Africa and the Middle East, for consideration by the Advisory Committee at its 1999 session. The recommendations made by the regional preparatory conferences for Latin America and the Caribbean and for Eastern Europe will be issued separately (A/CONF.184/PC/L.5/Add.1). The organization of work, including the procedure taken to prepare and adopt the recommendations, is summarized for each regional preparatory conference.

II. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Asia and the Pacific

A. Organization of work

4. The recommendations of the Regional Preparatory Conference for UNISPACE III for Asia and the Pacific were prepared based on the discussions conducted separately on the following four themes: "The Earth and its environment"; "Communication and navigation systems"; "Benefits of space exploration, including the role of microsatellites"; and "Education, information and cooperation". During the discussion on each theme, the speakers invited by the Office for Outer Space Affairs of the Secretariat made presentations on various topics of interest to the region, including possible recommendations and proposals to be made by the Regional Preparatory Conference. Following the presentations, discussions were held on those recommendations and proposals. The recommendations of each discussion were compiled by the rapporteur for consideration in the plenary meeting. After the conclusion of the discussions, all the recommendations were considered by the Regional Preparatory Conference for adoption.

B. Recommendations

1. The Earth and its environment

5. The recommendations adopted by the Regional Preparatory Conference for Asia and the Pacific are contained in paragraphs 6-40 below, and in the report on the Regional Preparatory Conference (A/CONF.184/PC/2). The Office for Outer Space Affairs made an effort to compile the recommendations in such a manner as to facilitate their review by the Advisory Committee at its 1999 session for possible inclusion in the draft report of UNISPACE III. Duplication and overlapping in the recommendations have, therefore, been eliminated to the extent possible.

6. In view of the contributions of remote sensing and related technologies towards the well-being of the global community, the promotion of international cooperation in the development and use of remote sensing technologies should be accorded priority in the agenda of UNISPACE III.

7. The Committee on Earth Observation Satellites should give serious consideration to the standardization of spectral aspects of sensors, data formats and other characteristics of the ground segment, in order to contribute to the development of Earth observation systems, especially in order to meet the emerging needs of countries in the region of Asia and the Pacific.

8. Member States should enhance consultations among themselves in planning future Earth observation programmes. They should also fully utilize and enhance research and information networking to promote the exchange of data and research results in the International Geosphere-Biosphere (Global Change) Programme and related Earth studies.

9. Policy and decision makers should be better informed about the immense potential of satellite remote sensing and related technologies for the effective management of resources and, in particular, for disaster prevention and mitigation.

10. Member States in the region should formulate appropriate space-related policies and strive to play an effective role in the delivery of value-added services.

11. Member States should follow a unified approach to developing a standard format for the acquisition, processing and handling of remote sensing data.

12. Satellite operators should maintain reasonable continuity of their services.

13. In view of the existence of problems encountered in implementing regional cooperative efforts involving data exchange and technology transfer owing to differences in national policies and priorities, Member States should develop more workable and acceptable mechanisms to facilitate coordination and cooperation in that area.

14. The Regional Preparatory Conference for Asia and the Pacific agrees that any regional programme should include the exchange of data and the sharing of information derived from data analysis.

2. Communication and navigation systems

15. Member States should take advantage of emerging space techniques by "leapfrogging" into advanced telecommunications systems.

16. The Regional Preparatory Conference for Asia and the Pacific recommends that satellite operators and service providers should reduce the cost of systems and services for space communications in developing countries in the region. The Regional Preparatory Conference notes that the private sector has an important role to play in that effort.

17. Satellite capabilities should be exploited to maximize their use in assisting in rural development. The private satellite communications industry should also adequately deal with such urgent needs.

18. The public and private sectors of industry should cooperate in the development of space communications technology and its applications. The Regional Preparatory Conference for Asia and the Pacific recommends that each country in the region should provide the necessary conducive environment by enacting appropriate legislation in order to promote investments.

19. Member States should, to the extent possible, share space as well as ground segment capabilities.

20. The international satellite organizations should take into account the needs and limitations of the countries in Asia and the Pacific in future space communications systems and applications. In this connection, the Regional Preparatory Conference for Asia and the Pacific recommends that such entities as the International Telecommunications Satellite Organization (INTELSAT), the International Mobile Satellite Organization (Inmarsat) and other space communications entities should provide communications satellite capacity with the aim of promoting regional space-based services.

21. Member States should be active players in the space communications industry and not just users of space communications technologies.

22. Local telecommunications infrastructure should be developed using local expertise, with assistance from both regional and international organizations.

23. The role of the Asia Pacific Satellite Communications Council, as a regional forum for formulating a

collective stand to deal with the issues of frequency planning and coordination, as well as training, should be strengthened by Member States in the region.

3. Benefits of space exploration, including the role of microsatellites

24. The Regional Preparatory Conference for Asia and the Pacific recommends that Member States in the region, particularly developing countries, should work together in the development of microsatellites.

25. Recognizing that microsatellites provide a new and affordable opportunity for regional cooperation and space capacity-building, the Regional Preparatory Conference for Asia and the Pacific recommends that countries in the region should be fully engaged in the development of low-cost microsatellite and mini-satellite programmes.

4. Education and training

26. Member States should implement public awareness programmes, especially in primary and secondary schools, focusing, *inter alia*, on the value of space technology in everyday life. The programmes should also target decision makers and planners and other potential users to make them aware of the relevance of space technology applications in various socio-economic sectors.

27. The Regional Preparatory Conference for Asia and the Pacific notes that the self-sustaining financial status of the Centre for Space Science and Technology Education in Asia and the Pacific is essential to the fulfilment of its goals and objectives. Member States should take full advantage of the educational facilities offered by the Centre. The Centre should continually adjust its curriculum and teaching facilities to respond to developments taking place in space technology, especially those directly related to the needs of the countries in the region.

28. The Centre and other similar institutions and facilities in Asia and the Pacific should provide region-specific education and opportunities to share experiences to scholars in the region at an affordable cost and without posing many logistical problems.

29. The development of self-learning tools such as electronic media and computer-based modules in education and training should be consistent with the requirements of user countries in the region.

30. There should be political will at the national level to give the highest priority to education in general and space science education in particular.

31. A network of educational facilities providing education and training in space science and technology at the postgraduate level should be developed to meet the increasing need in the region for adequately educated and trained human resources.

5. International cooperation

32. Action must be initiated to promote intensive cooperation among Member States in the region to enable them to benefit from space technology applications by sharing experiences and expertise. In this connection, the Regional Preparatory Conference recognizes that substantive joint projects provide a good basis for regional cooperation, the success of which will depend on enhanced national activities and programmes.

33. The Regional Preparatory Conference for Asia and the Pacific emphasizes that, in order for regional cooperation to succeed, higher levels of investment will be needed in the social sector, including in human resource development. The Regional Preparatory Conference agrees that Member States in the region should share their experiences in different areas of space technology for the development of human resources, through the exchange of technical information and education packages.

34. The Regional Preparatory Conference for Asia and the Pacific recommends that, in order to advance the state of space research and development activities in the region, Member States should allocate more funds to such activities.

35. The Regional Preparatory Conference for Asia and the Pacific agrees that the formation of a regional space agency should be approached in a step-by-step manner and that comprehensive preparatory work will have to be carried out.

36. Member States should fully utilize existing mechanisms of regional and international cooperation such as the Regional Space Applications Programme for Sustainable Development in Asia and the Pacific of the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Committee on Earth Observation Satellites. The coordination involving the United Nations Programme on Space Applications and ESCAP should be further strengthened.

37. Given the wide diversity among the countries in Asia and the Pacific, which include many developing countries, the United Nations should play a more active role in the coordination of space-related activities in

the region, with a view to fostering international cooperation.

38. Future satellite programmes in Asia and the Pacific should be formulated on a goal-oriented basis, by all concerned, taking into account the needs of the region.

39. The Regional Preparatory Conference for Asia and the Pacific recognizes the immediate need for adequate space-based communications, disaster monitoring and disaster evaluation facilities for the Pacific island nations. It notes the possibility of those nations using space-based communications systems to facilitate the exchange of relevant data. The Regional Preparatory Conference recommends that ESCAP should lead the initiative to assist the Pacific island nations in that endeavour.

40. The Regional Preparatory Conference agrees that UNISPACE III should affirm that space-based services for search and rescue, disaster monitoring and management, and weather-related uses should be free of commercial considerations.

III. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Africa and the Middle East

A. Organization of work

41. The recommendations of the Regional Preparatory Conference for UNISPACE III for Africa and the Middle East were prepared based on the discussions conducted separately on four themes "The Earth environment"; "Communication and navigation systems"; "Small satellites, spin-off benefits and information"; and "Education and cooperation". During the discussion on each theme, the speakers invited by the Office for Outer Space Affairs made presentations on various topics of interest to the region. Each was followed by a discussion, during which recommendations, observations and specific proposals were made by the participants. The observations and recommendations were compiled by a working group consisting of a limited number of interested participants, including those who had served as the chairperson and rapporteurs during the discussion. All the observations and recommendations were subsequently adopted by the Regional Preparatory Conference.

B. Recommendations

42. The recommendations adopted by the Regional Preparatory Conference for Africa and the Middle East are contained in paragraphs 43-76 below, and in the report on the Regional Preparatory Conference (A/CONF.184/PC/4). The Office for Outer Space Affairs consolidated the recommendations in order to facilitate their review by the Advisory Committee at its 1999 session. Duplication and overlapping in the recommendations have, therefore, been eliminated to the extent possible.

1. The Earth environment

43. In order to give adequate consideration to environmental and resource management issues in the regions of Africa and the Middle East, there should be direct participation and active involvement of those regions in international activities and programmes related to Earth observation.

44. The appropriate scientific and technical committees of the Economic Commission for Africa (ECA) and the Economic and Social Commission for Western Asia (ESCWA) should cooperate closely to enhance capacity-building in remote sensing and mapping centres already in existence in the regions in the areas of human resources, infrastructure development, acquisition of equipment and policy regulations.

45. The regions of Africa and the Middle East are not totally covered by Earth observation ground receiving stations. The regional commissions of the Economic and Social Council that are responsible for the two regions (ECA and ESCWA) should work with affected countries to ensure that the coverage gap is closed.

46. At present, there are four Earth observation ground receiving stations, located in Italy, Saudi Arabia, South Africa and Spain, that are able to receive data on several African and Middle Eastern countries. The owners of those stations and the countries that are within their footprints should study the feasibility and desirability of operating the stations on a regional basis. (South Africa is proposing to make its station available for such a regional operation.)

47. Member States are encouraged to put in place prospective, proactive, and participatory science and technology policies and to implement space strategies, including the necessary annual budget allocations, in order to derive maximum benefit and to contribute towards enhancing the standard of living of their people.

48. Member States should facilitate and encourage the participation of the private sector in all aspects of space industry development and related applications.

49. Scientific and research institutions in both Africa and the Middle East should foster scientific collaboration with Earth observation satellite operators in order to ensure that future Earth observation remote sensing systems meet the specific and unique needs of the two regions.

50. There are numerous space technology-related application projects, both in the operational phase and in the planning phase, that are funded by donor countries and international organizations, including United Nations entities. In order to maximize the beneficial impact of those projects, it is critical that the concerned donors, organizations and the countries benefiting from the projects coordinate and harmonize such development projects and programmes. The United Nations, as well as ECA and ESCWA, should play a leading role in coordinating and harmonizing development projects.

51. ECA and ESCWA should work with Member States in the two regions to determine the ability of the Member States to participate effectively in Earth observation projects.

52. The United Nations, in conformity with the Principles Relating to Remote Sensing of the Earth from Outer Space (General Assembly resolution 41/65, annex, of 3 December 1986) and other legal instruments governing space activities, should ensure that all countries enjoy equal access to data and other information from Earth observation satellites.

2. Communication and navigation systems

53. ECA and ESCWA should set up an interregional committee (for Africa and the Middle East) to coordinate and promote workshops and expert group discussions aimed at the formulation of regional policies and of coordinated positions at international forums and to increase public awareness of issues relating to satellite communications.

54. Member States should ensure that global telecommunications designers and operators take into consideration the interests and priorities of the local communities and the telecommunication authorities and relevant bodies of the countries where they operate.

55. In conformity with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex, of 19 December 1966) and other related legal instruments, the United Nations and the International Telecommunication Union (ITU) should guarantee the equal rights of all countries in access to and use of space. Geosynchronous orbital slots for countries and regions that do not yet have the capacity to use those slots should be reserved as a matter of right.

56. ITU should facilitate the coordination of orbital slots between countries in Africa and the Middle East and international organizations.

57. The United Nations should ensure that there are no restrictions on the accuracy of data, information and technology of global positioning systems and other satellite navigation systems, or on the availability of such systems, in particular for use in civil aviation.

58. Member States of the two regions are hereby encouraged to support fully and to participate actively in the activities of the regional centres for space science and technology education that are being established under the auspices of the United Nations in Morocco, Nigeria and the Middle East, with a view to building indigenous capability in space science and technology in all countries in the regions concerned.

59. The United Nations should ensure that no unnecessary restrictions are placed on Member States that are developing their own launch facilities, in particular when such facilities are in conformity with the criteria for the peaceful use of outer space.

60. ITU should ensure that experimental frequencies are reserved specifically for the purposes for which they are used at present. The specific frequencies to be reserved include, but are not limited to, the following: 18.6 and 18.8 GHz, used for the measurement of soil, moisture and vegetation; and the frequency band 174.8 and 191.8 GHz, centred on 183.3 GHz, used for vertical sounding of atmospheric properties, such as humidity.

61. African Member States should support and encourage regional communication establishments, such as the Regional African Satellite Communication Organization (RASCOM), in their efforts to provide and operate regional satellite communication programmes.

62. African Member States should support the development of an inter-African connection for, among others, telephony, data, tele-education, tele-medicine and the Internet. In this connection, African countries, the United Nations and other members of the international community are called upon to support fully and to

contribute to the realization of the project on the cooperative information network linking scientists, educators, professionals and decision makers in Africa (COPINE), an initiative of the Office for Outer Space Affairs of the Secretariat.[3]

3. Small satellites, spin-off benefits and information

63. Member States in the regions of Africa and the Middle East are urged to formulate clear policies on science and technology, including space-related aspects, and to endow such policies with inalienable political will and an implementation programme so that African and Middle Eastern societies may reap the attendant dividends upon active participation in appropriate science and technology programmes.

64. In spite of the tremendous advances that have been achieved in the applications of space technology in the last 20 years, socio-economic development in Africa is yet to be as much affected by this technology as in other parts of the world. One major reason for this undesirable situation is lack of commitment. In order to redress the situation, it is thus recommended that a joint African-Middle Eastern leadership conference, at the level of either heads of State or ministers, should be organized by the Office for Outer Space Affairs, with a view to increasing the awareness of space technology development and its impact on social and economic development, preferably before UNISPACE III.

65. Member States should make effective use of their indigenous scientific personnel and give them every support, so that they can forge tangible research and development linkages and enter into joint ventures with institutions and industries that have acknowledged capabilities in space science and technology, as well as encourage the private sector to invest in such joint ventures.

66. Member States should invest in the development of the necessary knowledge and skills in their citizens in different aspects of space science and technology, in particular through their participation in the development, design and production of small satellites, with a view to gaining an understanding of the technology and the subsequent use of such satellites for various socio-economic applications, bearing in mind the relatively low cost of designing, constructing, launching and operating small satellites. Programmes on small satellites could be carried out through regional collaboration.

67. Member States should at all times take advantage of the opportunities available through a variety of international programmes, such as the United Nations Programme on Space Applications, and should respond promptly to requests of the Office for Outer Space Affairs, especially with regard to participation in meetings, conferences and training courses organized by the Office, so that they can keep abreast of the latest developments in space science and technology.

68. Member States should request advanced countries to eliminate discriminatory measures in the licensing of space technology to the regions of Africa and the Middle East.

4. Education and cooperation

69. Member States in the regions of Africa and the Middle East should mobilize efforts to formulate or strengthen national space policy within the context of their science and technology programmes. Such policies should integrate optimal use of space technology tools with a view to socio-economic development.

70. The importance of sensitizing national policy makers to the applications of space technology cannot be overstressed. Multimedia tools should be used at the national level to make such campaigns attractive.

71. In utilizing space applications for educational purposes, emphasis should be placed on the development of educators and trainers, who would then be in a better position to prepare appropriate curricula for distance education, flexible learning and continuing education.

72. A virtual university allows flexibility to evolve in accordance with the changing needs of a region. It prevents duplication of effort and facilitates uniformity in training. It also provides expertise that may not exist in one particular region and can be shared with other regions. Recognizing that there are many providers of content for distance education, priority should be placed on creating the relevant infrastructure in order to gain access to the immense amount of pre-existing resources for education and training.

73. Member States should take advantage of existing projects and experiences in the field of tele-education and virtual universities, so that African and Middle Eastern countries can be prepared for the information age.

74. Member States should take advantage of the Space Generation Forum at UNISPACE III. The Forum, to be organized by the alumni of the International Space University, will provide the opportunity for aspiring,

emerging and established space-faring nations to develop the necessary skills, knowledge and contacts among their young and promising space professionals for future advancement.

75. With the aid of new information technologies, Member States should participate actively in the exchange of space-related experiences and knowledge by creating networks of specialists within regions or countries.

76. The United Nations should establish, as a matter of urgency, a special fund within the Office for Outer Space Affairs to assist in the implementation of the recommendations of UNISPACE III.

Notes

[1] *Official Records of the General Assembly, Fifty-second Session, Supplement No. 20* (A/52/20).

[2] Ibid., para. 153.

[3] The COPINE project proposal to establish an efficient communications network among African professionals and scientists at the national and regional levels resulted from the recommendations of the Conference on Space Technology for Sustainable Development in Africa, held in Dakar in October 1993.